

(10) A machine as in claim (1) wherein the computing component, preferably, a micro-processor, can automatically select a display mode in accordance with the orientation of the device as detected by the gravity sensing tilt sensor(s).

(11) A machine as in claim (1) wherein the ambient temperature is measured and displayed for calibration purposes.

(12) A machine as in claim (1) wherein a discrete signal, preferably, audio, visual, or electrical, is emitted when the unit's output reports one or more parameters as may be pre-determined by the user.

(13) A machine as in claim (1) wherein an alarm signal is emitted that varies in accordance with the machine's measurement's proximity to one or more angles as may be predetermined by the user.

(14) A machine as in claim (1) also comprising a means of recording, or of storing in a memory, a baseline or zero point for each axis from whence angles may be measured;

(15) A machine as in claim (1) wherein the functions of angular measurement may be set to reset to zero at pre-determined or user selected angles, presenting, at each applicable angle, a display such as would be exhibited by a conventional bubble inclinometer in the level position.

REMARKS – General

Having reviewed the latest office action and the latest informal telephone conferences with the examiner, it appears that a single obstacle continues to exist in the form of related significant misunderstandings that remain with respect to a function of the applicant's invention, and also with respect to the HEGER reference.

The applicants believe that the below clarification will satisfy requirements with respect to novelty and unobviousness of this feature that is near the heart of the RICHTER technology.

To respectfully put the issue in succinct terms, the instant RICHTER application does at least one thing that none of the other referenced arts can do. **RICHTER calculates and graphically displays the running direction of the slope upon which it sits. Again, we emphasize this. It displays the DIRECTION that the measured slope runs, also known as the bearing, course line, or train. It does this by displaying a line literally coinciding with the **direction** of the slope. The specification and previous claims refer to this as the **compounded angle and the line** generated and displayed.**

(**RICHTER**, also, can, of course, calculate and display, although not by the said line, the amount of slope along its maximum line of slope, which is, by definition, along the said slope direction line displayed by the device.)

Previous correspondence indicates that there continues to exist, confusion with respect to this display of a line representing the slope direction. The main misunderstanding concerns HEGER, as perceived by the examiner to anticipate RICHTER.

The HEGER device, will display whatever line would represent the transverse slope angle the HEGER device sensor experiences at any particular instant. The line itself depicts only the **ANGLE** of the slope, but not the direction, bearing, course line, or train. No matter how the display is oriented, the line displayed **ONLY** represents the **ANGLE**....and only from a particular orientation of the vehicle containing the sensor. The direction and total degree of the slope upon which the truck-mounted HEGER device rests, remains indeterminate.

The angle displayed depends entirely on the orientation of the device at that particular instant, as the truck points up hill, down hill, or across the side of the hill. **HEGER cannot tell the direction or maximum angle of the slope upon which it sits.** If oriented parallel to the slope, HEGER will sense *no slope at all*.

The RICHTER device, on the other hand, actually identifies and shows the **direction** of the slope and outputs a numerical display of the maximum slope, no matter what direction the Richter device is oriented. **It calculates the direction and degree of the slope, at its maximum.** Then it **displays a line that shows the direction and only the direction of that slope** along with a numerical expression of the maximum degree of slope. The RICHTER *line* illustrated does NOT depict any information what-so-ever about the degree of slope.

To succinctly review the above, the HEGER line represents angular degree of slope, but not direction. In contrast, the RICHTER line represents direction of the angle, but not the degree of slope.

To offer an example, that shows the difference in action, if the HEGER device were mounted in a truck that was pointing directly up a very steep hill, aiming directly at the summit, the HEGER device display would read an angle of zero, even if the truck were sitting on a extreme slope. The RICHTER device, in contrast, would display the angle of the hill face and the direction of the slope, no matter what the orientation of the RICHTER device at any particular instant.

To say it yet another way, HEGER, does not, as is claimed by the instant RICHTER claim 11, show the *edge of the plane in which the angle lies*. Instead, Heger shows, *the edge of the plain to which the angle is measured from the reference plane*. This is an essential distinction.

In another example, if one lays the RICHTER device on a pool table, or a bowling alley lane, it will tell you precisely what direction a loose ball will roll (by the line displayed) and precisely to what degree the surface departs from true level (by the numerical read-out). It will do this no matter how the device is oriented. **None of the previously referenced arts will do this.**

If we lay the RICHTER device on freshly landscaped ground, it will tell (without needing to be "swung") how far the ground departs from being level and also will show the *direction* that rain water will run off. Neither HEGER, alone nor combined with any other referenced art, can do this.

That is why RICHTER displays the said line on the top/essentially horizontal face (See RICHTER fig. 3, attached.) but HEGER displays *its* line on a side/essentially vertical face. It is because RICHTER and HEGER display different things. The display of either would be meaningless if displayed in a different plane or in manner of the other device.

HEGER, we now see, teaches no equivalent technologies to that of RICHTER. Further, it provides no technology that can be combined with any other technology that can anticipate RICHTER. Neither do *any* of the other references.

The applicants respectfully submit that there is no suggestion of such a capability in any of the referenced art, nor any indication that anyone recognized a need for such ability. There is no suggestion of combinations for such a display because **there is no combination of any referenced previous art that can produce such a display.**

To name each examiner proposed reference in turn is unnecessary to consider them all, herein, addressed. They are all collectively and exhaustively addressed and invalidated by this single point.

Respectfully included herein are two rough sketches of a RICHTER device and a copy of figure 3 from the instant RICHTER application. Each rough sketch depicts the device in operation on a different surface, each surface having a different slope direction and degree. (We have exercised artistic license in the sketches of the device, stretching scales and including only the essentials to make the operation understandable.) None of the sketches or drawings are submitted to replace any presently contained in the instant RICHTER application.

The sketches and drawing illustrate the fact that the device locates and measures the full slope of a surface and displays the direction and degree of the slope, no matter what the direction of the slope relative to the device. The *direction* of the slope line is represented by a line graphic on the top/horizontal face of the device.

The fig. 3 drawing also shows the device in operation. The device would also work the same way, of course, whether measuring on the surface of, for example, a bowling alley lane, or on a landscaped surface, or on a hillside, or on any other relatively planar surface, the slope of which one might desire to locate and measure.

Applicants respectfully assert that no other technology performs the task illustrated. Definitely, none of the referenced technologies, nor combinations of the referenced technologies can do it.

The applicants respectfully submit that the above functions of the RICHTER device are, unequivocally supported, illustrated, and expressed in the previous claims and specification. However, the claims, thus far, clearly have not created the necessary clarity to communicate these valuable capabilities without confusion. It appears that the bare technical and mathematical language in which the claims have previously been couched, although accurate, tended to obscure the practical meaning. **Therefore, in order to provide more understandable, ways of expressing this novel capability as follows, the applicants propose the above new claims.**

Claim 1 as now written contains the key re-drafted explanation of the novel function that is above discussed in detail. The previously submitted, but now canceled, claim versions do contain, in strictly interpreted language, the feature showing slope direction represented by the edge of a plane in which the angle lies. However, the new claim 1 uses different means of description that the drafter offers to be more readily understandable to those skilled in the art.

Successfully re-drafted, new claim 1 renders the follow-on dependent claims a-fortiori and independently patentable over the references.

AMENDMENTS TO DRAWINGS

No amendments to drawings.

CONCLUSION

By the above action, the applicant believes his application to now be in condition for acceptance, which action he respectfully solicits.

CONDITONAL REQUEST FOR CONSTRUCTIVE ASSISTANCE

Respectfully assuming that the applicants now, herein, present what is in principle, the validity of their assertion of novelty and unobviousness, if, for any reason this application is not believed to be in full condition for allowance, for any reason, be it of formality or of clarity, the applicants respectfully request constructive assistance and suggestions of the examiner in order that this application may e put in allowable condition as soon as possible and without need for further proceedings.

September 1, 2006

Very Respectfully,



David Douglas Winters
Reg.# 50,746

- Encl: (1) USPTO Office Communication dated 01/13/2006
(2) COMPREHENSIVE CLAIMS LIST (Clean)
(3) COMPREHENSIVE CLAIMS LIST (Annotated)
(4) Rough sketch #1
(5) Rough sketch #2
(6) Fig. 3 of US Patent App. 10/772,039
(7) USPTO Facsimile Auto-Reply Transmission of 18 Aug 2006

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